BANTYSH, A.N.; ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.

Isotopic exchange of the chlorine ion with some organic chlorides.
Zhur. fiz khim. 36 no.1:57-62 Ja '62. (MIRA 16:8)

1. Khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva.
(Chlorine—Isotopes) (Chlorides)

SHENDEREY, Ye.R.; ZEL'VENSKIY, Ya.D.; IVANOVSKIY, F.P. (Moskva)

Ethylene solubility in acetone, methyl ethyl ketone, and toluene at low temperatures. Zhur. fiz. khim. 36 no.4:800-807 Ap '62. (MIRA 15:6)

1. Gosudarstvennyy institut azotnoy promyshlennosti.
(Ethylene) (Solvents)

ZEL'VENSKIY, Ya.D.; TITOV, A.A.; SHALYGIN, V.A.

Effect of pressure on mass transfer in a packed rectification column studied by means of radioisotopes. Khim. prom. no.2: 116-123 F '63. (MIRA 16:7)

1. Moskovskiy Ordena Lenina khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva.
(Packed towers) (Mass transfer)
(Distillation, Fractional)

YEFREMOV, A. A.; ZEL'VENSKIY, Ya. D.

Studying the purification by rectification of methylphenyldichlorosilane with the method of radioactive indicators. Khim prom no. 3: 201-207 Mr '64. (MIRA 17:5)

1. Moskovskiy Ordena Lenina khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva.

ZEL'VENSKIY, Ya. D.; YEFREMOV, A. A.

Separation of hydrogen, carbon, and oxygen isotopes during the rectification of isopropanol. Izv. vys. ucheb. zav.; khim. i khim. tekh. 5 no.5:727-730 '62. (MIRA 16:1)

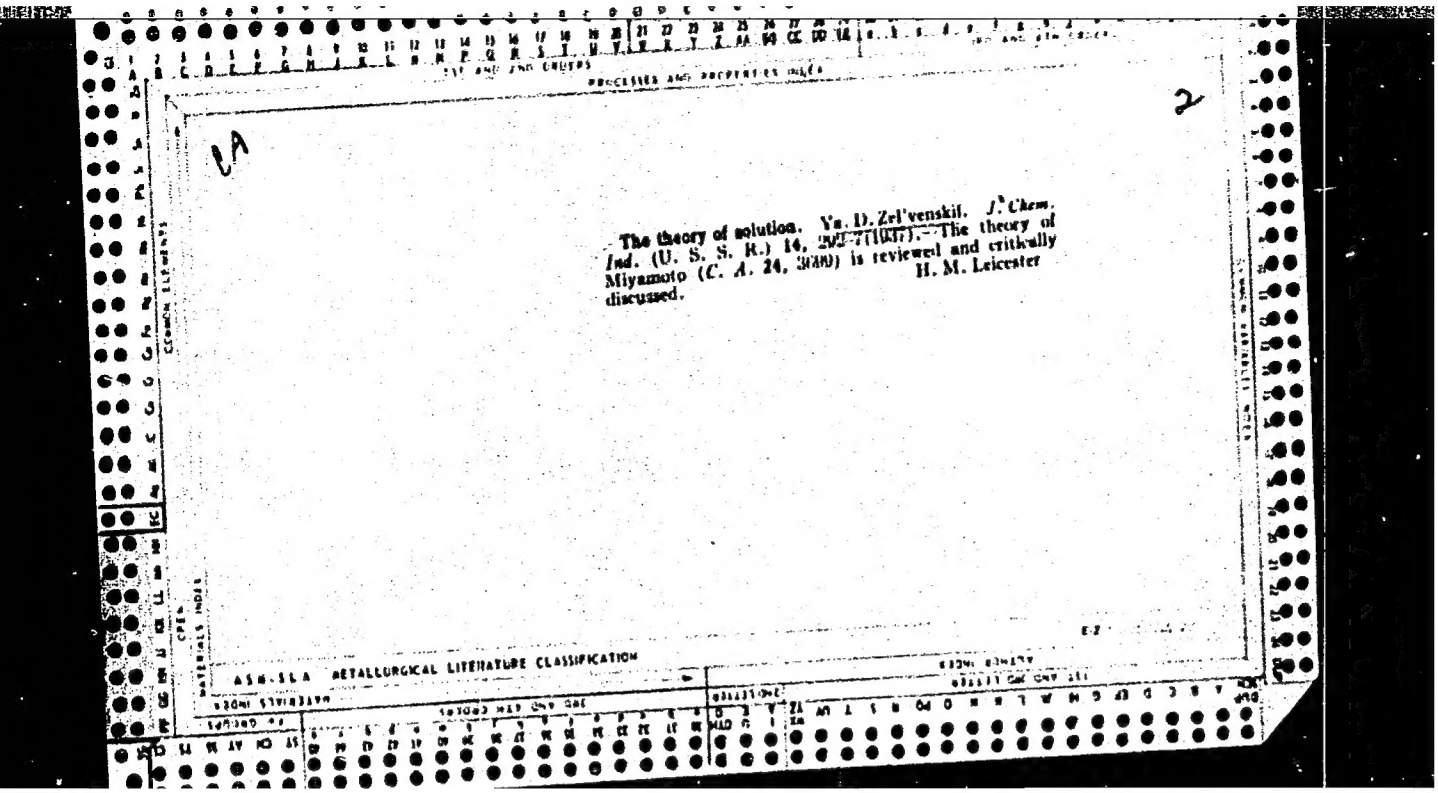
1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva, kafedra tekhnologii razdeleniya i primeneniya izotopov.

(Isopropyl alcohol) (Distillation, Fractional)
(Isotope separation)

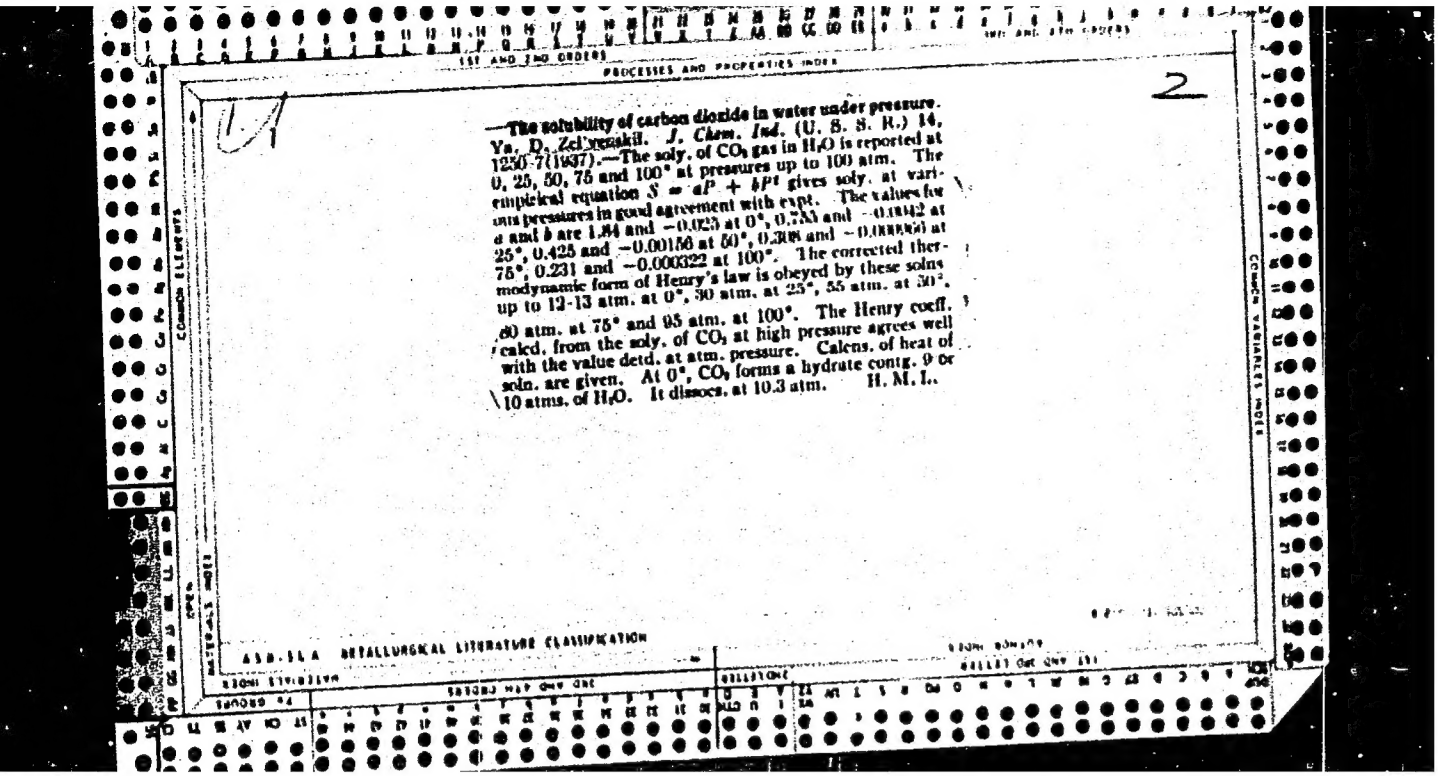
ZEL'VENSKIY, Ya.D.; KOCHETKOV, V.L.

Purification of cyclohexane by the adsorption removal of benzene with the aid of the tracer method. Neftekhimiia 3 no.2:285-295 Mr-Ap '63. (MIRA 16:5)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.
(Cyclohexane) (Benzene) (Carbon isotopes)



The theory of solution. Va. D. Zel'venskii. *J. Chem. Ind.* (U. S. S. R.) 14, 302-7(1937). The theory of Miyamoto (*C. A.* 24, 3080) is reviewed and critically discussed.
H. M. Leicester



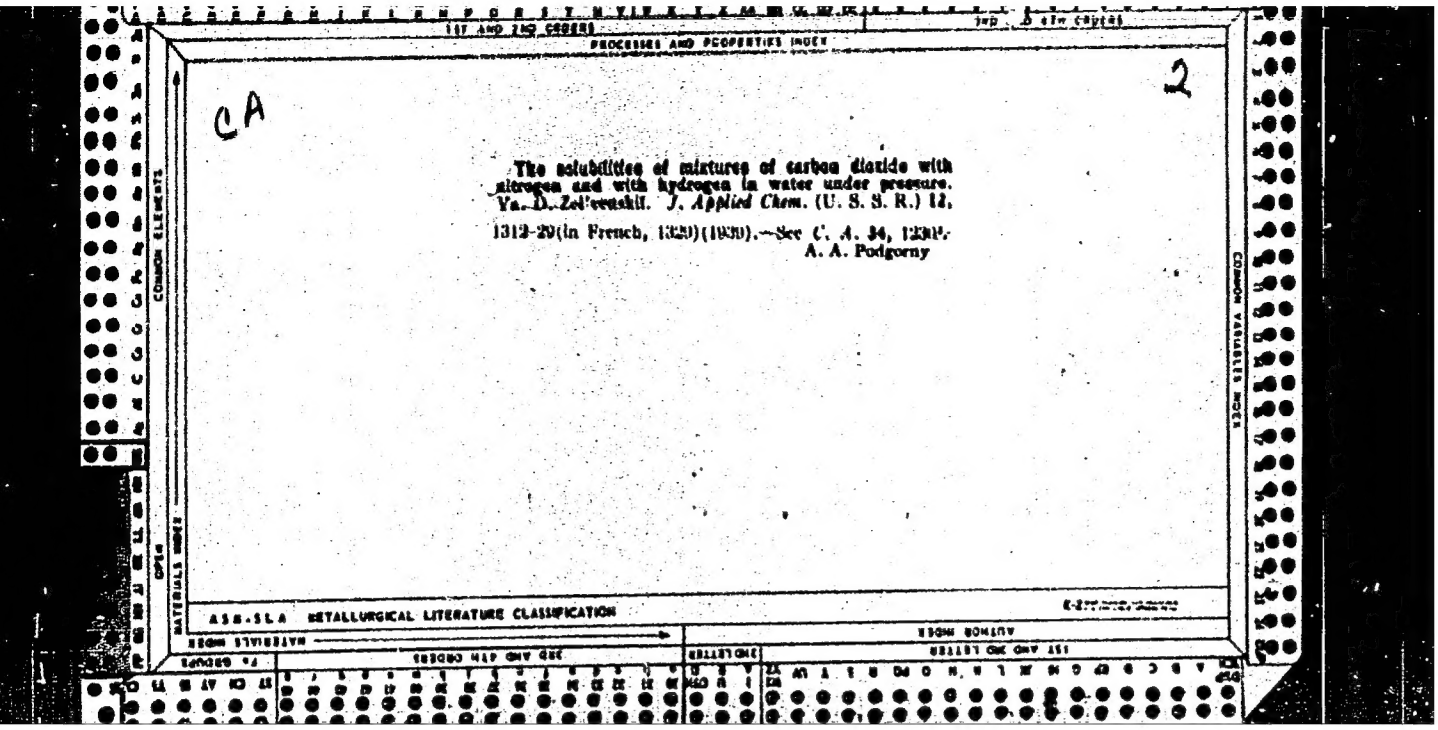
PROCESSES AND PROPERTIES INDEX

1A

2

The solubility of carbon dioxide in water under pressure. Ya. D. Zel'vinskii. *J. Chem. Ind.* (U. S. S. R.) 14, 1250-7(1937).—The soly. of CO_2 gas in H_2O is reported at 0, 25, 50, 75 and 100° at pressures up to 100 atm. The empirical equation $S = aP + bP^2$ gives soly. at various pressures in good agreement with expt. The values for a and b are 1.84 and −0.025 at 0°, 0.733 and −0.0[illegible]42 at 25°, 0.425 and −0.00156 at 50°, 0.308 and −0.0[illegible]60 at 75°, 0.231 and −0.000322 at 100°. The corrected thermodynamic form of Henry's law is obeyed by these solns up to 12-13 atm. at 0°, 30 atm. at 25°, 55 atm. at 50°, 80 atm. at 75° and 95 atm. at 100°. The Henry coeff. calcd. from the soly. of CO_2 at high pressure agrees well with the value detd. at atm. pressure. Calcns. of heat of soln. are given. At 0°, CO_2 forms a hydrate contg. 9 or 10 atms. of H_2O. It dissocs. at 10.3 atm. H. M. L.

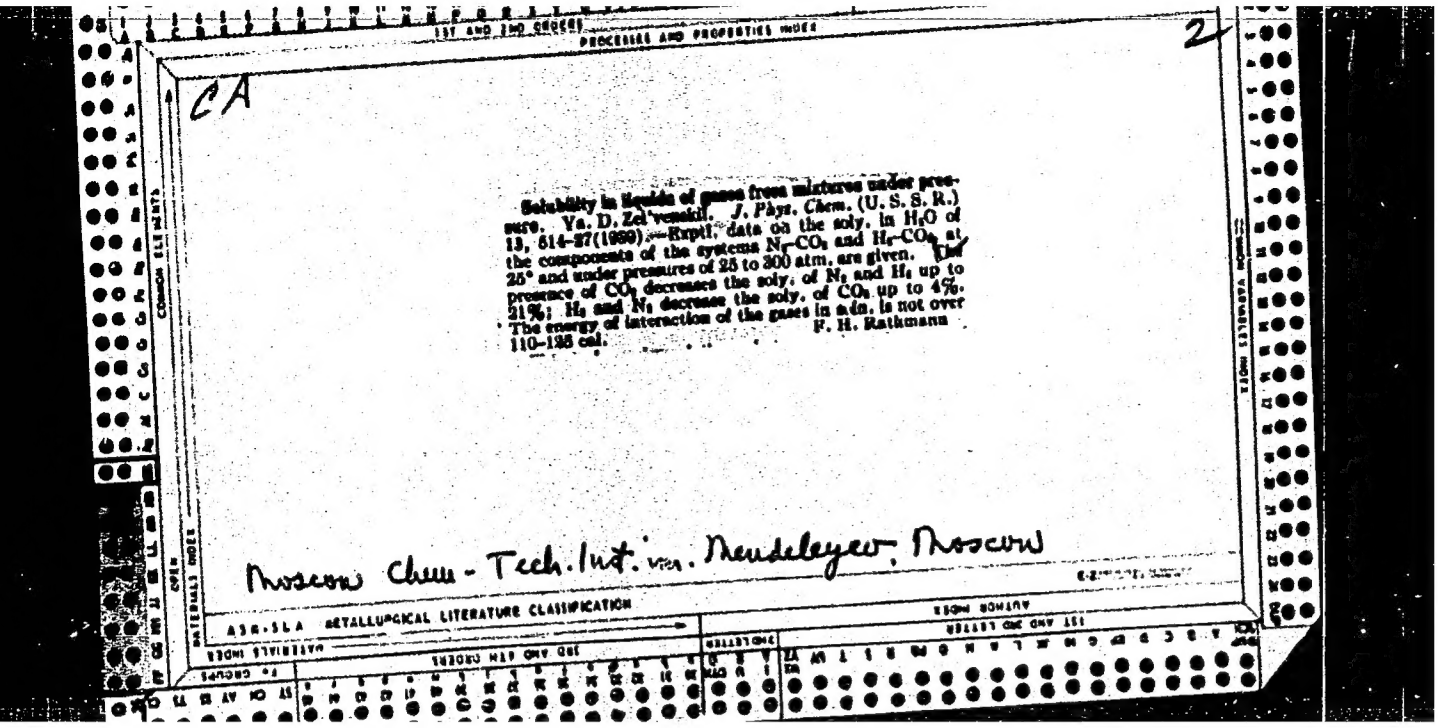
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

2

The solubilities of mixtures of carbon dioxide with nitrogen and with hydrogen in water under pressure. Va. D. Zel'venskii. *J. Applied Chem.* (U. S. S. R.) 12, 1313-29(in French, 1329)(1939).—See *C. A.* 34, 1230⁹. A. A. Podgorny

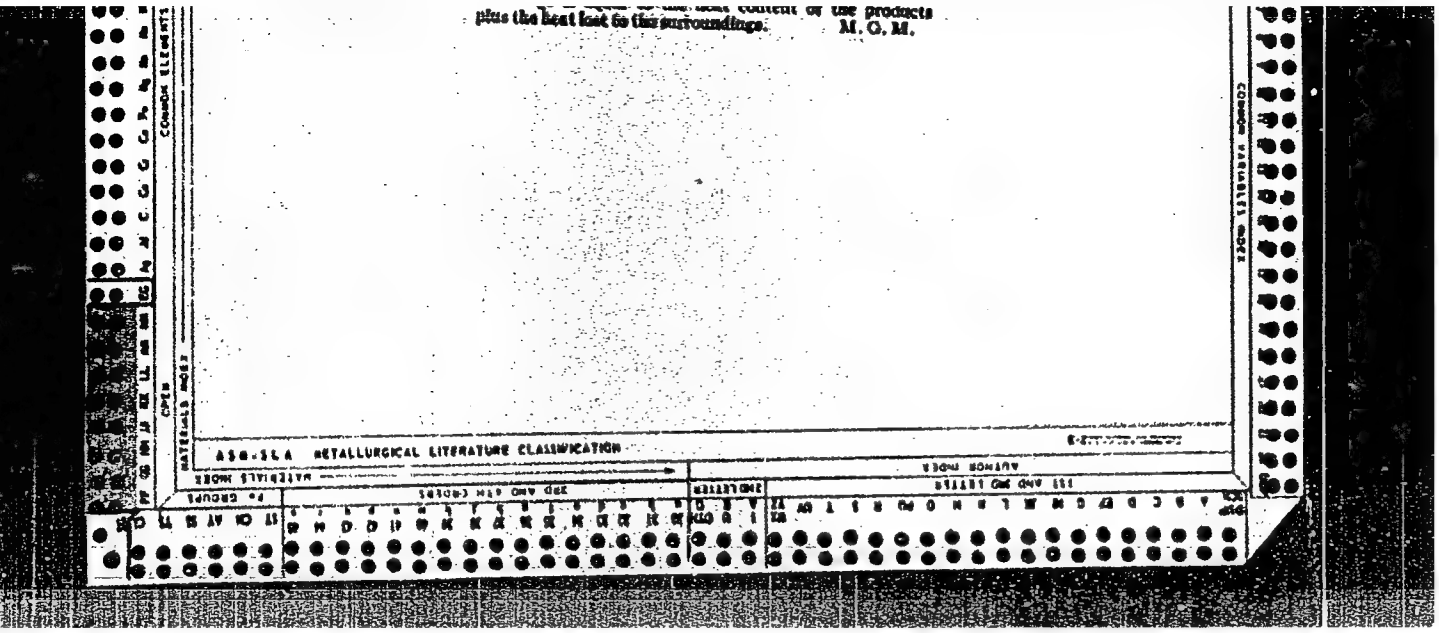


CA

2

Solubility in liquids of gases from mixtures under pressure. Ya. D. Zel'venskii. *J. Phys. Chem.* (U. S. S. R.) 13, 614-27(1939).—Exptl. data on the soly. in H_2O of the components of the systems N_2–CO_2 and H_2–CO_2 at 25° and under pressures of 25 to 300 atm. are given. The presence of CO_2 decreases the soly. of N_2 and H_2 up to 21%; H_2 and N_2 decrease the soly. of CO_2 up to 4%. The energy of interaction of the gases in aq. soln. is not over 110–135 cal. F. H. Rathmann

Moscow Chem.-Tech. Inst. im. Mendeleyev, Moscow



C. A.

18

The problem of a rational industrial scheme for the purification of converted gas from carbon dioxide. Ya. D. Zelvenskii. *Zhur. Prikład. Khim.* (J. Applied Chem.) 21, 437–40(1948).—The 2-phase method of Lopatin (*C.A.* 41, 7061e) for the removal of CO_2 by water under pressure, from gas converted during the manuf. of synthetic NH_3 is shown to have the following main disadvantages: the driving force for absorption is reduced, while the absorption coeff. increases; the extent of water satn. is lowered and correspondingly, the specific water consumption for the scrubbing is increased. Under similar conditions the 2-phase method gives poorer results than the 1-phase method, as for instance 1804 cu. m. against 2090 cu. m. CO_2 absorbed per hr. per scrubber, resp. Kitty Lus

SHENDEREY, Ye.R.; ZEL'VENSKIY, Ya. D.; IVANOVSKIY, F.P.

Solubility of hydrogen, nitrogen, and methane in methanol under pressure at a low temperatures. Gaz. prom. 6 no.3:42-45 '61. (MIRA 14:3)
(Gases—Purification)

ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.

Measurement of the activity of liquids labeled with mild emission. Zhur.fiz.khim.29 no.9:1706-1710 S '55.(MLRA 9:4)

1.Khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva, Moskva.

(Liquids) (Radioactive tracers)

AGAL'TSOV, A.M.; ZEL'VENSKIY, Ya.D.

Separation coefficient for sulfur isotopes in chemical exchange in the system: SO_2 -- HSO_3^-. Zhur.fiz.khim. 29 no.12:2244-2248 D '55. (MLRA 9:5)

1. Khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva, Moskva.

(Sulfur--Isotopes)

ZEL'VENSKIY, YA. D.

AID P - 3060

Subject : USSR/Chemistry

Card 1/2 Pub. 78 - 14/20

Authors : Zel'venskiy, Ya. D. and V. A. Shalygin

Title : Testing of fractionating columns by means of diluted solutions. Application of the method of radioactive indicators

Periodical : Neft. khoz., v. 33, no. 8, 65-74, Ag 1955

Abstract : A laboratory method is presented for testing fractionating column refining by means of diluted solutions, of which the solution of thiophene in benzene gave the best results. This solution was tested by the colorimetric method (the blue coloring of thiophene was obtained with isotin in presence of concentrated sulphuric acid) and by the radioactive method (the radioactivity was achieved by using a radioactive isotope of sulphur S^{35} in thiophene). The results of those tests are given. Charts, tables. 6 Russian references (1937-1953) out of a total of

AID P - 3060

Neft. khoz., v. 33, no. 8, 65-74, Ag 1955

Card 2/2 Pub. 78 - 14/20

18 (1909-1953).

Institution : None

Submitted : No date

Zel'venskiy, Ya. D.

CHINA/Processes and Equipment for Chemical Industries - Processes and Apparatus for Chemical Technology K-1

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33263

Author : Zel'venskiy, Ya.D., Shalygin, V.A.
Inst :
Title : Testing of Rectification Columns with Dilute Solution. Use of the Method of Radioactive Tracers.

Orig Pub : Khuasyue shitsze, 1956, No 10, 530-533, 534.

Abstract : A translation, see RZhKhim, 1956, 21435.

Card 1/1

ZEL'VENSKIY, YA.D.

USSR/Processes and Equipment for Chemical Industries - Processes and Apparatus for Chemical Technology. K-1

Abs Jour : Ref Zhur - Khimiya, No 2, 1957, 6926

Author : Zel'venskiy, Ya.D., Sarishvili, I.G.
Inst :
Title : Removal of Organic Sulfur Compounds from Gases with Activated Clay from Depotits of the Georgian SSR.

Orig Pub : Zh. prikl. khimii, 1956, 29, No 6, 833-841

Abstract : Description of the layout and procedure, and also of the results, of laboratory experiments on adsorption, from the air, of organic sulfur compounds (carbon disulfide and thiophene) by means of activated clay: askaglina and gumbrin. The adsorbents were used in the form of tablets, produced under a pressure of 625 kg/cm^2; it is shown that they can be used for the purification of dry gases, for example of coke gas fraction. In the course of the experiments a determination was made of the change in

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USSR/Processes and Equipment for Chemical Industries. K-1
Processes and Apparatus for Chemical Technology.

Abs Jour : Ref Zhur - Khimiya, No 2, 1957, 6926

sulful-holding capacity of the adsorbents, depending on temperature and humidity; and an investigation of the dynamics of absorption, effect of depth of the layer, gas velocity and initial concentration of carbon disulfide and thiophene. The spent adsorbents are readily regenerated by blowing with air heated at 100-150°.

Card 2/2

ZEL'VENSKIY, Ya.D., kand.khim.nauk; SHAKHOVA, S.F.; DEDOVA, I.V.

Removal of mercaptans from gas with the aid of aqueous sodium hydroxide solutions. Trudy GIAP no.7:188-194 '57. (MIRA 12:9)

(Gas purification) (Thiols)

STRUNINA, A.V.; ZEL'VENSKIY, Ya.D., kand.khim.nauk; IVANOVSKIY, F.P., kand.tekhn.nauk

Absorption of carbon disulfide by monoethanolamine solutions. Trudy GIAP no.7:195-212 '57. (MIRA 12:9)
(Gas purification) (Carbon disulfide) (Ethanol)

ZEL'VENSKIY, Ya.D., kand. khim.nauk; SHAKHOVA, S.F.; DEDOVA, I.V.

Removal of mercapstans from gas with the aid of an aqueous sodium hydroxide solution. Part 3. Trudy GIAP no.8:145-163 '57. (MIRA 12:9)

(Gas purification) (Thiols)

AUTHORS: Zel'venskiy, Ya. D., Shalygin, V. A. SOV/156-58-1-11/46

TITLE: The Isotopic Exchange Between Sulfur and Carbon Disulfide as Well as Between Sulfur and Carbon Sulfoxide (Izotopnyy obmen mezhdu seroy i serouglerodom i mezhdu seroy i serookis'yu ugleroda)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 40-45 (USSR)

ABSTRACT: V. M. Nikolayeva assisted in the experiments. The subject mentioned in the title is theoretically interesting in connection with the explanation of the mobility of sulfur in the mentioned compounds. Practically it is important for the creation of a method capable of high production of labelled carbon disulfide and carbon sulfoxide. At the beginning the authors give a short survey of publications (Refs 1 - 3). They carried out the isotopic exchange by heating of a solution of labelled sulfur in carbon disulfide. In the I^{st} experimental series the concentration of the elementary sulfur in the solution remained constant ($6,2.10^{-5}$ g-atom/l). The effectiveness of the exchange was

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investigated at 182, 217, and 257°. Figure 1 shows the results. At 257° within 30 - 60 minutes the exchange reached the maximum value which deviated a little from 100% (in consequence of the impure sulfur, as is assumed). As is known, the course of the reaction of the isotopic exchange with time is expressed by the kinetic solution of first order independently of the mechanism and of the real order of the reaction (Ref 5).

$\ln\left(1 - \frac{x}{x_\infty}\right) = -k't$, (1), t = the duration of the exchange, k' denotes the apparent velocity constant, x the activity of the sample at the time t, x_∞ the activity of the sample in the case of a complete exchange, i. e. in the case of a uniform distribution of the isotope. The constructed diagrams of the dependence $\log\left(1 - \frac{x}{x_\infty}\right)$ on time showed that the experimental results are placed satisfactorily on a straight line for each of the investigated temperatures according to equation (1). From this the values of the

apparent velocity constant of the exchange reaction could be calculated (Table 1). From the data of table 1 the activation energy of the exchange reaction between carbon disulfide and elementary sulfur was determined (at 257°, duration of one hour). Figure 2 gives data at various sulfur concentrations. They show that the effectiveness of the exchange is reduced with rising concentration of the elementary sulfur in the case of equal conditions. The connection between the true (k) and the apparent velocity constant (k') is expressed by equation (2). After various calculations the authors found that for the isotopic exchange of sulfur in the system sulfur - carbon disulfide the real order of the reaction (with respect to sulfur) is equal to zero. This explains the inversely proportional relation between the exchange degree and the sulfur concentration. IInd experimental series. In order to accelerate the reaction between sulfur and carbon sulfoxide, the experiments were carried out in benzene, toluene, and absolute ethyl alcohol as solvent. Table 2 gives the results.

The Isotopic Exchange Between Sulfur and Carbon Disulfide as Well as Between Sulfur and Carbon Sulfoxide

SOV/156-58-1-11/46

Ethanol turned out to be the most effective solvent. Fig 4 gives the results concerning the exchange at 217 and 257°. Within 2- 3 hours at 257° the exchange approaches towards a perfect one. This reaction has as well a zero order for sulfur. There are 4 figures, 2 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Kafedra tekhnologii razdeleniya i primeneniya izotopov Moskovskogo khimiko-tekhnologicheskogo instituta im. D. I. Mendeleyeva (Chair of Technology of Separation and Use of Isotopes at the Moscow Institute of Chemical Technology imeni D.I. Mendeleyev)

SUBMITTED: October 10, 1957

Card 4/4

SOV/156-58-2-47/48

AUTHORS: Zel'venskiy, Ya. D., Sokolov, V. Ye., Shalygin, V. A.

TITLE: Separation of Isotopes by Means of Rectification (Razdeleniye izotopov rektifikatsiyey) Methanol Rectification (Rektifikatsiya metanola)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp. 388-391 (USSR)

ABSTRACT: Among the possible methods of separation of isotopes rectification is one of the most economical methods. For this reason its experimental investigation is of interest. In the investigations covered by the present paper methanol was rectified in the form of an isotope mixture. The change in the isotope composition was determined according to all methanol-forming elements D, O^{18}, and C^{13}, a certain amount of radioactive methanol was then added and separation was observed according to the isotope C^{14}. The rectification apparatus is shown in figure 1. The isotope concentration of C^{13} and O^{18} was determined by means of mass spectrometry. For this purpose the sample was

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first decomposed on zinc sulfide at 350° into a mixture of $CO + H_2$. From this mixture CO_2 was produced on an iron catalyst at 600° according to the Boudoir (Buduar)-reaction and analyzed in the mass spectrometer. The deuterium concentration was determined by means of the flotation method according to the density of the water formed as a result of methanol combustion. The water first was normalized to oxygen by means of isotope exchange with air on a manganese catalyst at 500 - 600° C. The C^{14}-concentration was determined directly by measuring the methanol activity according to a method already described (Ref 1). The results of the experiments are given on figure 2 and 3. The obtained stationary changes of concentration of the isotope methanol varieties are shown on table 1. From these results the authors draw the conclusion that methanols, the components of which form heavy carbon isotopes are more volatile than the ordinary methanol. In this connection also methanol containing C^{14} was more volatile than that with C^{13}. An analogous fact was observed by the authors already earlier in the case of $C^{13}S_2$ which is more volatile than $C^{12}S_2$ (also in Refs 2, 3).

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Separation of Isotopes by Means of Rectification. Methanol Rectification

The determinations of the changes of concentration at the time they reach the stationary state (Figs 2, 3) made possible the computation of the number of theoretical steps of separation (n_t). Furthermore the non-recurring coefficient of separation (α, Fenske equation, Ref 4) was computed. Among several solutions suggested the authors used that made by Babkov and Zhavoronkov (Ref 5) as final solution. The thus obtained values of α and n_t are given on table 1. As could be expected the coefficient α for deuterium is highest. It is followed by C^{14} and C^{13}. There are 3 figures, 1 table, and 5 references, 2 of which are Soviet.

ASSOCIATION: Kafedra tekhnologii razdeleniya i primeneniya izotopov Moskovskogo khimiko-tekhnologicheskogo institute im. D. I. Mendeleyeva (Chair for the Separation and Use of Isotopes of the Moscow Chemical Technological Institute imeni D. I. Mendeleyev)

SOV/156-58-2-47/48

Separation of Isotopes by Means of Rectification. Methanol Rectification

SUBMITTED: October 2, 1957

Card 4/4

ZELVENSKIY, Ya.D.; KOLLEROV, D.K.; TYRSIN, A.A.; SHALYGIN, V.A.

Use of radioactive isotopes of sulfur to study the processes of the formation of corrosive substances in compressors and gas pipes. Gaz. prom. no.5:41-45 My '58. (MIRA 11:5)
(Sulfur--Isotopes) (Corrosion and anticorrosives)

GAZIYEV, G.A.; ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.

Liquid-vapor equilibriums in binary mixtures of ethyl alcohol - isopropyl alcohol and carbon bisulfide - methyl iodide. Zhur. prikl. khim. 31 no.8:1220-1227 Ag '58. (MIRA 11:10)
(Systems (Chemistry)) (Phase rule and equilibrium)

ZEL'VENSKIY, Ya.D.; SHAKHOVA, S.F.

Investigating porous structure of activated coals in connection with their sulfur-adsorbing capacity. Gaz. prom. 4 no.2:13-17 F '59. (MIRA 12:3)
(Gas purification) (Carbon, Activated)

5(4),5(1)

AUTHORS: Shenderey, Ye.R., Zel'venskiy, Ya. D., Ivanovskiy, F. P.

SOV/64-59-4-13/27

TITLE: Solubility of Carbon Dioxide in Methanol at Deep Temperature Under Pressure (Rastvorimost' dvuokisi ugleroda v metanole pri nizkoy temperature pod davleniyem)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 4, pp 50-53 (USSR)

ABSTRACT: For the purpose of purifying the synthesis-gas of sulfur compounds and carbon dioxide (I), and of extracting the acetylene from combustion gases (Refs 1-4) a gas absorption in organic solution mediums at deep temperatures (-25 to -60°) and a pressure of from 10-30 atmospheres is used. Methanol (II) proved to be the best means of absorption of this kind (Ref 5). The determination results concerning the solubility of (I) in (II) at -26, -36, -45, and -60° under pressure are given. The determinations were made according to a static method in an arrangement (Fig 1) which is in principle similar to that of (Ref 8). The autoclave and the piezometer were mounted in a thermostat. The pressure was measured with a spring-manometer, and the temperature by means of a copper/Constantan-thermo-couple

Card 1/2

via a potentiometer PPTN. The measuring results obtained (Table 1, Figs 2,3 Isotherms) show that the solubility of (I) in (II) at given conditions is very high, and that for instance, if the pressure is equal, at -45° 70 times more of (I) is dissolved in (II) than at +25° in water. With (I) concentrations under 20 mol% the solubility increases proportionally with the pressure. In this interval the molar concentration of (I) in the solution may be calculated by multiplying the corresponding pressure of (I) with a coefficient. The solution heat of (I) in (II) was calculated from the temperature function of solubility (4050 kcal/mol). The densities of concentrated (I)-solutions in (II) (Table 2) were determined, and it was found that the molar volume of the (I)-solution in (II) is an additive composition of the liquid (I) and (II) with a deviation up to 2%. There are 6 figures, 2 tables, and 9 references, 5 of which are Soviet.

ACCESSION NR: AP4031444 S/0064/64/000/003/0201/0207

AUTHORS: Yefremov, A.A.; Zel'venskiy, Ya.D.

TITLE: Investigation of distillation purification of methylphenyldichlorosilane by the radioactive tracer method

SOURCE: Khimicheskaya promy#shlennost', no. 3, 1964, 201-207

TOPIC TAGS: methylphenyldichlorosilane, purification, distillation, radioactive tracer, tagged carbon, vacuum distillation, separation factor, liquid vapor equilibrium, phenyltrichlorosilane methylphenyldichlorosilane system, dimethylphenylchlorosilane methylphenyldichlorosilane system, heat of vaporization

ABSTRACT: To provide data required for the vacuum distillation purification of methylphenyldichlorosilane (MFDKhS) the liquid-vapor equilibria were experimentally determined for the two binary systems, the dilute solutions of phenyltrichlorosilane (FTKhS) and of dimethylphenylchlorosilane (DMFKhS) in MFDKhS, and the effect of pressure on the effectiveness of MFDKhS rectification was also determined. Concentrations of FTKhS and DMFKhS were determined by the radioactivity of the solutions: their phenyl groups were

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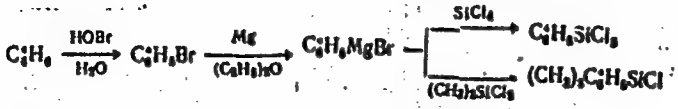
ACCESSION NR: AP4031444

tagged with C^{14} by the following synthesis:



With concentrations of 0.01-5 mol% (pressures of 5-760 mm Hg) the investigated systems are subject to Henry's law. The separation factor-temperature relationship for the FTKhS-MFDKhS system is shown by $lg\alpha = -0.0451 + \frac{3.67}{T}$ and for the DMFKhS-MFDKhS system by $lg\alpha = 0,0230 + \frac{3,67}{T}$

These values can be used for calculations for fractionation of the technical MFDKhS. For MFDKhS, $lg\ P = 8.001 - \frac{2440}{T}$

and for DMFKhS, $lgP = 8.013 - \frac{2400}{T}$

The heat of vaporization for MFDKhS = 10980 cal/mol; for DMFKhS, 11170 cal/mol. The height equivalent of the theoretical degree of separation, its dependence on pressure, and the dependence of the

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ACCESSION NR: AP4031444

degree of separation on pressure were determined. It was found that maximum separation is at pressures of 25-100 mm Hg. "The experimental part of the work was conducted with the participation of V.I. Morozova." "A purified sample of MFDKhS was obtained by M.A. Kleynovsk and A.S.. Ginzburg." Orig. art. has: 7 figures, 5 tables and 10 equations.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00

SUB CODE: IC, NP NR REF SOV: 009 OTHER: 005

Card 3/3

YEFREMOV, A.A.; ZEL'VENSKIY, Ya.D.

Liquid - vapor equilibrium in the binary systems methyltrichlorosilane - dimethyldichlorosilane and phenyldichlorosilane - phenyltrichlorosilane. Zhur.prikl.khim. 38 no.11:2513-2522 N '65. (MIRA 18:12)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva. Submitted October 11, 1963.

ZEL'VENSKIY, Ye.D.; TITOV, A.A.; SHALYGIN, V.A.

Studying the effect of pressure on mass transfer in a packed tower by means of radioisotopes. Trudy MKHTI no.40:96-112 '63. (MIRA 18:12)

ZEL'VENSKIY, Ya.D.; YEFREMOV, A.A.; AFANAS'YEV, O.P.

Adsorption purification of trichlorosilane for the removal of phosphorus impurities. Zhur. prikl. khim. 38 no.5:987-992 My '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva.

BANTYSH, A.N.; ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.

Preparation of chlorobenzene labeled with the radioactive chlorine-36 by the isotope exchange method. Radiokhimiia 6 no.3:367-371 '64. (MIRA 18:3)

ZEL'VENSKIY, Ya.D.; TETOV, A.A.; SHALYGIN, V.A.

Investigating the removal of chlorine-containing impurities from hexamethylene diisocyanate by means of radioactive tracers. Khim. prom. no.6:425-428 Je '64. (MIRA 18:7)

ZELVENSKIY, Ya.D.; TITOV, A.A.; SHALYGIN, V.A.

Vapor-liquid equilibrium of some diluted solutions. Khim. i tekh. topl. i masel 9 no.3:1-7 Mr'64 (MIRA 17:7)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

YEFREMOV, A.A.; ZEL'VENSKIY, Ya.D.

Preparation of some organochlorosilanes tagged with the isotope C^{14}. Zhur. ob. khim. 34 no.8:2622-2625 Ag '64. (MIRA 17:9)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva.

ZEL'VENSKIY, Ya.D.; YEFREMOV, A.A.; LARIN, G.M.

Studying the vapor-liquid equilibrium in the systems hydrocarbon-water with the use of the hydrogen-tritium radioisotope. Khim. i tekh. topl. i masel 10 no.7:3-7 Jl '65. (MIRA 18:9)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva.

ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.; TATARINSKIY, V.S.; NIKOLAYEV, D.A.

Relative volatility of HTO solutions in H_2O. Atom. energ. 18 no.1: 46-48 Ja '65. (MIRA 18:2)

ZEL'VENSKIY, Ya.D.; SHALYGIN, V.A.; ANDREYEVA, N.I.

Thiophene-S^{35}. Zhur. ob. khim. 35 no.8:1369-1373 Ag '65. (MIRA 18:8)

SOURCE: Zhurnal prikladnoy khimii, v.38, no.11, 1965, 2513-2522

TOPIC TAGS: chemical equilibrium, silane, isotope

ABSTRACT: The solutions to be studied were tagged with the radioactive carbon^{14} isotope and experiments were made in the pressure interval from 40 to 760 mm Hg. The separation coefficient was determined by the method of simple distillation (diagram of equipment shown). Actual calculation of the separation coefficient was done by the integral equation

$$\ln\frac{G_0}{G_k}=\frac{1}{\alpha-1}\left(\ln\frac{x_0}{x_k}+\alpha\ln\frac{1-x_k}{1-x_0}\right), \qquad (2)$$

where G_0 and G_k are, respectively, the amounts of the solution under

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investigation before and after distillation (moles); x_o and x_k are the content of the more volatile component of the mixture, before and after distillation(mole percent); and, alpha is the separation coefficient. Quantitative results of the experiments are shown in tabular form and a graph shows the dependence of the separation coefficient of the methyltrichlorosilane-dimethyldichlorosilane system on temperature. A further curve shows the change in the multiplication factor for the separation of the systems as a function of the degree of distillation. Knowing the separation coefficiecient, alpha, the authors proceed to the calculation of the activity coefficients of the two components of the mixtures over the whole range of concentration. It is concluded from the experimental data and the subsequent calculations that the separation coefficient, alpha, is constant for all the mixtures studied over all concentration ranges. It is demonstrated also that the phenyldichlorosilane-phenyltrichlorosilane system exhibits a small positive deviation from ideal behavior. Orig. art. has: 20 formulas, 3 figures, and 5 tables.

SUB CODE: 07/ SUBM DATE: 11Oct63/ ORIG REF: 008/ OTH REF: 005

FILIPPOV, G.G.; SAKODYNSKIY, K.I.; ZEL'VENSKIY, Ya.D.

Use of the effective concentration method for calculating the dual temperature separation of isotopes. Khim. prom. 41 no.1: 10-14 Ja '65. (MIRA 18:3)

ZEL'VENSKIY, Ya.D.; NIKOLAYEV, D.A.; SHALYGIN, V.A.; TATARINSKIY, V.S.

Optimum pressure in rectification. Khim. prom. 41 no.5: 362-366 My '65. (MIRA 18:6)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

ZEL'VENSKIY, YU.

Weapons are your strenght, care for weapons. Moskva, Voen. izd-vo Ministerstva vooruzhennykh sil SSSR, 1950. 39 p.

VINOKUROV, Aleksandr Dmitriyevich; ZEL'VENSKIY, Yuliy Davydovich; VASIL'YEV, A.A., red.; KOROLEV, A.V., tekhn.red.

[The first astronaut is an alumnus of an aeroclub] Pervyi kosmonavt - vospitannik aerokluba. Moskva, Izd-vo DOSAAF, 1962. 94 p. (MIRA 15:5)
(Gagarin, IUrii Alekseevich, 1934-)

ZEL'VENSKIY, Yu.

Eyes and ears of a ship. Voen. znan. 25 no.1:11 Ja '49. (MIRA 12:12)

(Russia--Navy--Sailors--Watch duty)

ZEL'VENSKIY, Yu.

Destroyers. Voen. znan. 25 no.5:10-11 My '49. (MIRA 12:12)
(Destroyers (Warships))

ZEL'VENSKIY, Yu.

Aeronautical trend. Fiz.v shkole 12 no.11:19-20 N '52. (MLRA 14:11)

(Mathematics--Gliding and soaring)

ZEL'VENSKIY, Yu.

New Year's Eve. Voen. znan. 37 no.12:7-8 D '61. (MIRA 14:11)
(Sevastopol--Siege, 1942)

ZEL'VENSKIY, Yu.

The road to mastership is hard. Kryl.rod. 12 no.8:6-7 Ag '61.
(MIRA 14:8)

(Parachuting)

SEL'VENSKIY, Yu.

Courage. Kryl.rod. 13 no.2:2-3 F '62. (MIRA 15:1)
(World War, 1939-1945—Aerial operations)

ZEL'VENSKIY, Yu.

On aerial stadiums. Kryl.rod 13 no.8:10-11 Ag '62. (MIRA 15:8)

(Parachuting)

ZEL'VENSKIY, Yu.

Astronaut Pavel Popovich. Kryl. rod. 13 no.9:6-7 S '62. (MIRA 15:10)

(Popovich, Pavel Romanovich, 1930-)

ZEL'VENSKIY, Yu.

Parachute canopies above collective farms. Kryl.rod. 14 no.1: 8-9 Ja '63. (MIRA 16:1)
(Collective farms) (Parachuting)

ZEL'VENSKIY, Yu.

Vladimir Gurnyi jumps. Kryl. rod. 15 no.10:10-11 O '64
(MIRA 18:1)

ZEL'VENSKIY, Yu.

Veterans and novices. Kryl. rod. 15 no.11:14-16 N '64. (MIRA 18:3)

ZEL'VENSKIY, Yu.

Greetings, country of Romance! Kryl. rod. 16 no.7:21-23 Jl '65.
(MIRA 18:8)

VINOKUROV, A.; ZEL'VENSKIY, Yu.

Moscow, Tushino. Kryl. rod. 16 no.3:13-15 Mr '65. (MIRA 18:5)

ZEL'VENSKIY, Ya.

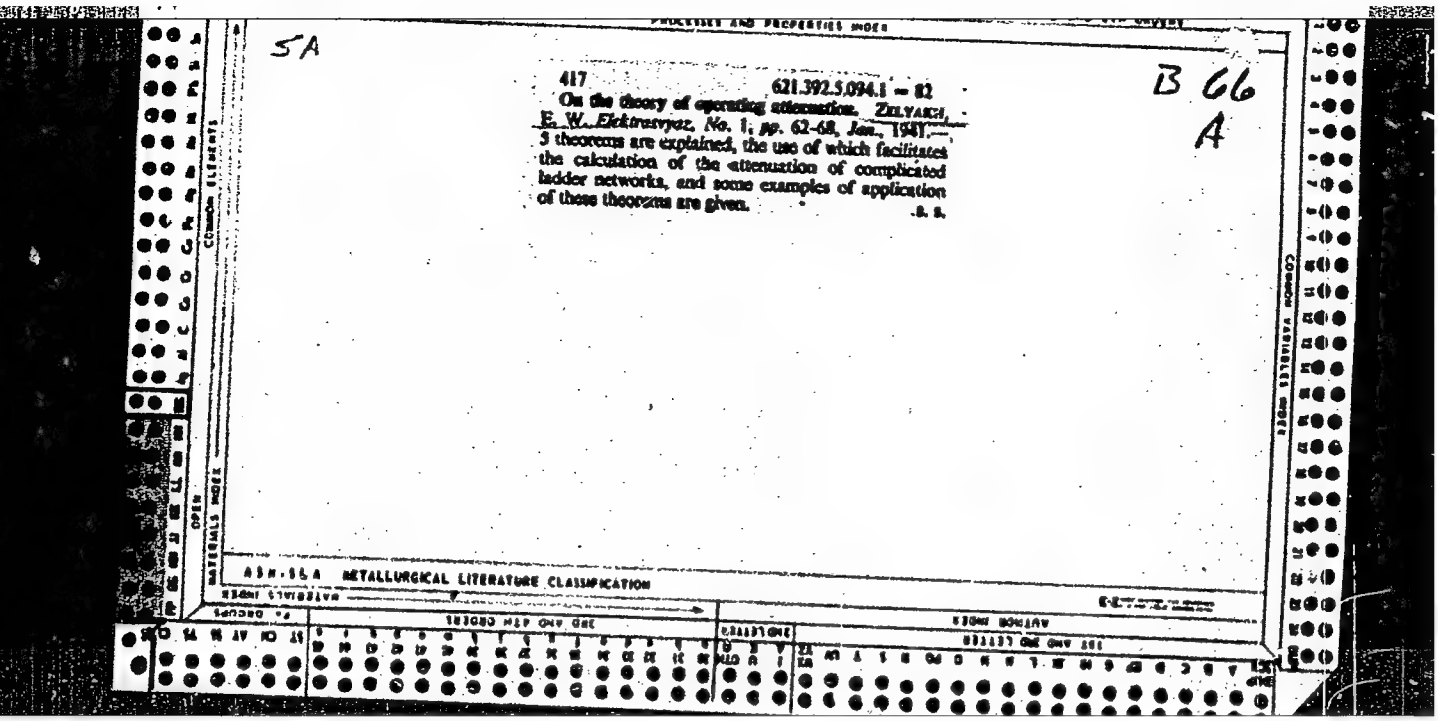
Door to the spaces of the universe. Kryl. rod. 16 no.8:9 Ag '65. (MIRA 18:8)

ZEL'VENSKIY, Yu.

Medals do not fall from the sky. Kryl. rod. 16 no.11:2-5 N '65. (MIRA 18:12)

865. ON MEASURING INDUCTANCE COILS WITH ELECTROSTATIC SHIELDS.— E. V. Zelyakh. (Izvestiya Elektroprom. Slab. Toka, No. 12, 1940, pp. 58-60.)

An inductance coil in an electrostatic shield is a three-pole passive system (Fig. 1) in which two poles (e.g. 1 and 2) correspond to the ends of the coil winding and the third pole (e.g. 3) to the shield. A three-pole passive system can be replaced by an equivalent triangle with impedances Z_{12}, Z_{13} and Z_{23} connected between the apices (Fig. 2). Of these impedances, Z_{12} is inductive and Z_{13} and Z_{23} are capacitive. It is stated that so far as is known to the author no method for direct measurement of Z_{12}, Z_{13} and Z_{23} has yet been described in the technical literature. Accordingly, a method is proposed in which the above values are measured on an a.c. bridge with inductive ratio arms having variable mutual inductance. The necessary formulae are derived, and the effect of Z_{13} and Z_{23} on the accuracy of the measurement of Z_{12} is taken into account. The method has been used for measuring coils in the crystal filters of a 12-channel telephone equipment.



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417 621.392.5.094.1 – 82

On the theory of operating attenuation. ZELYAKH, E. V. *Elektrosvyaz*, No. 1, pp. 62-68, Jan., 1957.—3 theorems are explained, the use of which facilitates the calculation of the attenuation of complicated ladder networks, and some examples of application of these theorems are given. -S. S.

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ZELYAKH, YE. V. PA 19T32

USSR/Filters, Crystal Sep 1946
Crystals, Quartz

"Rejector Type Quartz Filter," Ye. V. Zelyakh, Engr Ya. I. Volikin, 6 pp

"Radiotekhnika" Vol I, No 6

An investigation of a rejector type quartz filter circuit producing a very sharp damping effect, with formulae for elements of the circuit and test results.

19T32

ZELWIANSKI, R., Plk mgr

Engineering in its struggle against traffic anarchy on roads.
Horyz techn. 15 no.11:20-23 '62.

ZELYAKH, E. V.

Oct/Nov 1946

USSR/Radio
Crystals, Piezoelectric
Filters, Band-pass

"Narrow-band Filters with Piezoelectric Quartz Oscillators," E. V. Zelyakh, Candidate of Mechanical Sciences, Ya. I. Velikin, Engr, 26 pp

"Radiotekhnika" Vol I, No 7/8

Outline of the theory and practice of computing narrow-band pass filters with quartz oscillators starting with the operating attenuation of one and two reaction filters. Computation formulas and practical coefficients for designing quartz oscillators and other parts of filters are given.

20758

ZELYAKH, Ye V.

ZELYAKH, Ye., V. i BOBROVSKAYA, I.K.

"Methods for Computing the Power of a Feedback Amplifier." Symposium of scientific works on wire communications, Academy of Sciences USSR, 1949.

ZELYAKH, E.V.; BOBROVSKAYA, I.K.

Calculation method for the amplification of feedback amplifiers. Sbor.nauch.rab.po prov.sviazi [no.1]:124-140 '49. (MLRA 7:5)
(Amplifiers, Electron-tube)

ZELYAKH, E.V.

Zelyakh, E.V. "Initial postulates of the theory of electrical diagrams," Sbornik trudov Leningr. elektrotekhn. in-ta svyazi im. Bonch-Bruyevicha, Issue 4, 1949, p. 41-45 --- Bibliog: 20 items

SO: U-3566, 15 March, 53, (Letopis 'Zhurnal 'nykh Statey, No. 14, 1949).

ZELYAKH, E.V.

PA 41/49T24

USSR/Electronics Mar/Apr 49
Quadrupoles, Linear
Mathematics - Applied

"Fundamentals of the General Theory of a Linear Quadrupole," E. V. Zelyakh, Leningrad Elec Eng Inst of Communications imeni Bonch-Bruyevich, 13½ pp

"Avtomat i Telemekh" Vol X, No 2

Lays foundation of the theory of a linear quadrupole of the most general form (with dependent and independent sources). Deduces fundamental equations of such a quadrupole. Establishes

41/49T24

USSR/Electronics (Contd) Mar/Apr 49

number of independent parameters characterizing it and relationship of these parameters. Indicates method of determining parameters. Gives graphic schemes for converting a quadrupole. Concludes by introducing tables of parameters for the case of the simplest quadrupole of the indicated type.

41/49T24

ZELYAKH, Ye.V.

Theory of the symmetrical polyphase system. Elektrichestvo '53, No.4, 61-5. (MLRA 6:4)
(MEA 56 no.672:4773 '53)

ZELYAKH, E. V.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Zelyakh, E. V.	"Elements of the General Theory of Linear Electric Circuits"	Ministry of Communications

SO: W-30604, 7 July 1954

ZELYAKH, E. V.

FD-2226

USSR/Electronics - Piezoelectric Filters

Card 1/1 Pub 90-6/12

Author : *Velikin, Ya. I., *Gel'mont, Z. Ya., *Zelyakh, E. V.

Title : High-pass piezoelectric filter

Periodical : Radiotekhnika, 10, 41-49, Mar 1955

Abstract : Theory and methods of calculation of a certain type of high-pass piezoelectric filter are presented in this article. Analysis of the filter circuit, determination of the characteristic parameters of the filter, derivation of formulas for calculation of resonant frequencies and operating attenuations are explained in detail. The calculated values of the high-pass piezoelectric filter characteristics were checked experimentally, and were found to be in good agreement. Two USSR references cited. Formulas; graphs.

Institution: *Active members of the All-Union Scientific and Technical Society of Radio Engineering and Electric Communications imeni A. S. Popov, Moscow

Submitted : 22 Apr 1954

ZELYAKH, E.V.

"Ideal Power Converter -- New Element of Electric Network,"
by E. V. Zelyakh, Elektrosvyaz', No 1, Jan 57, pp 35-47

A concept of a new electrical circuit element is introduced; it is in the form of a four-terminal network having the ratio of its potentials equal to the ratio of currents under any load conditions.

The author calls the new element an ideal converter of power (IPM), which can be used as an equivalent circuit for a nonreciprocal network. The specific feature of this new element is its ability to convert power without altering resistance.

This element has been recently applied to the analysis of transistorized amplifiers.

SUM. 1287

KUSHNIR, F.V., ovt.red.; GAVRILOV, A.F., zaslushennyy deyatel' nauki i tekhniki, prof., red.; DOLUKHANOV, M.P., prof., red.; YEGOROV, K.P., dots., red.; ZHDANOV, I.M., prof., red.; ZELYAKH, E.V., prof., red.; ZELIGER, N.B., prof., red.; LEBEDEV, K.N., dots., red.; ODNOL'KO, V.V., dots., red.; ROMANOVSKIY, V.B., [deceased], dots., red.; FOMICHEV, I.N., dots., red.; SHINIBEROV, P.Ya., dots., red.; SHMAKOV, P.V., zaslushennyy deyatel' nauki i tekhniki prof., red.; GAL'CHINSKAYA, V.V., tekhn.red.

[Structure and reactivity of organic compounds] Voprosy stroeniia i reaktsionnoi sposobnosti organicheskikh soedinenii. Leningrad, 1959. 372 p. (Leningrad. Elektrotekhnicheskii institut sviazi. Trudy, no.8). (MIRA 13:11)
(Chemistry, Organic) (Chemical structure)

ZELYAKH, E.V., doktor tekhn.nauk, prof.

Signs of characteristic parameters of symmetrical four-terminal networks. Elektrichestvo no.6:41-46 Je '60.
(MIRA 13:7)

1. Odesskiy elektrotekhnicheskiy institut svyazi.
(Electric circuits)

ZELYAKH, E. V.

ZELYAKH, E. V. -- "General Theory of a Multiterminal and Four-Terminal Network." Sub 28 Jun 52, Moscow Electrical Engineering Inst of Communications (Dissertation for the Degree of Doctor in Technical Sciences)

SO: Vechernaya Moskva, January-December 1952

ZELYAKH, E.V.

PHASE I BOOK EXPLOITATION

Koshcheyev, I.A. 202

Osnovy teorii elektricheskoy svyazi. Lineynyye sistemy s sosredotochennymi parametrami (Fundamentals of Electric Communication. Linear Systems with Lumped Parameters) Moscow Svyaz'izdat, 1954. 370 p. 20,000 copies printed.

Resp. Ed.: Yefimov, I. Ye.; Ed.: Ogarkov, P.F.; Tech. Ed.: Sokolova, R.Ya.; Reviewers (mentioned in Preface): Zelyakh, E.V., Prof., Yegorov, K.P., Docent, and Sadovskiy, A.S., Docent

PURPOSE: The book is intended as a textbook for students of higher technical schools (vtuz) specializing in communications. It was approved by the Main Administration of Schools of the Ministry of Communications of the USSR.

COVERAGE: See Table of Contents.
There are 6 references, all of which are Soviet(including 1 translation).

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AVAILABLE: Library of Congress (TK 5101 .K6)

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ZELYAKH, E.V.; VELIKIN, Ya.I.

Narrow band piezoelectric filters. Elektrosviaz' 10 no.8:39-51
Ag '56. (Electric filters) (MLRA 9:9)

AID P - 4555

Subject : USSR/Electronics

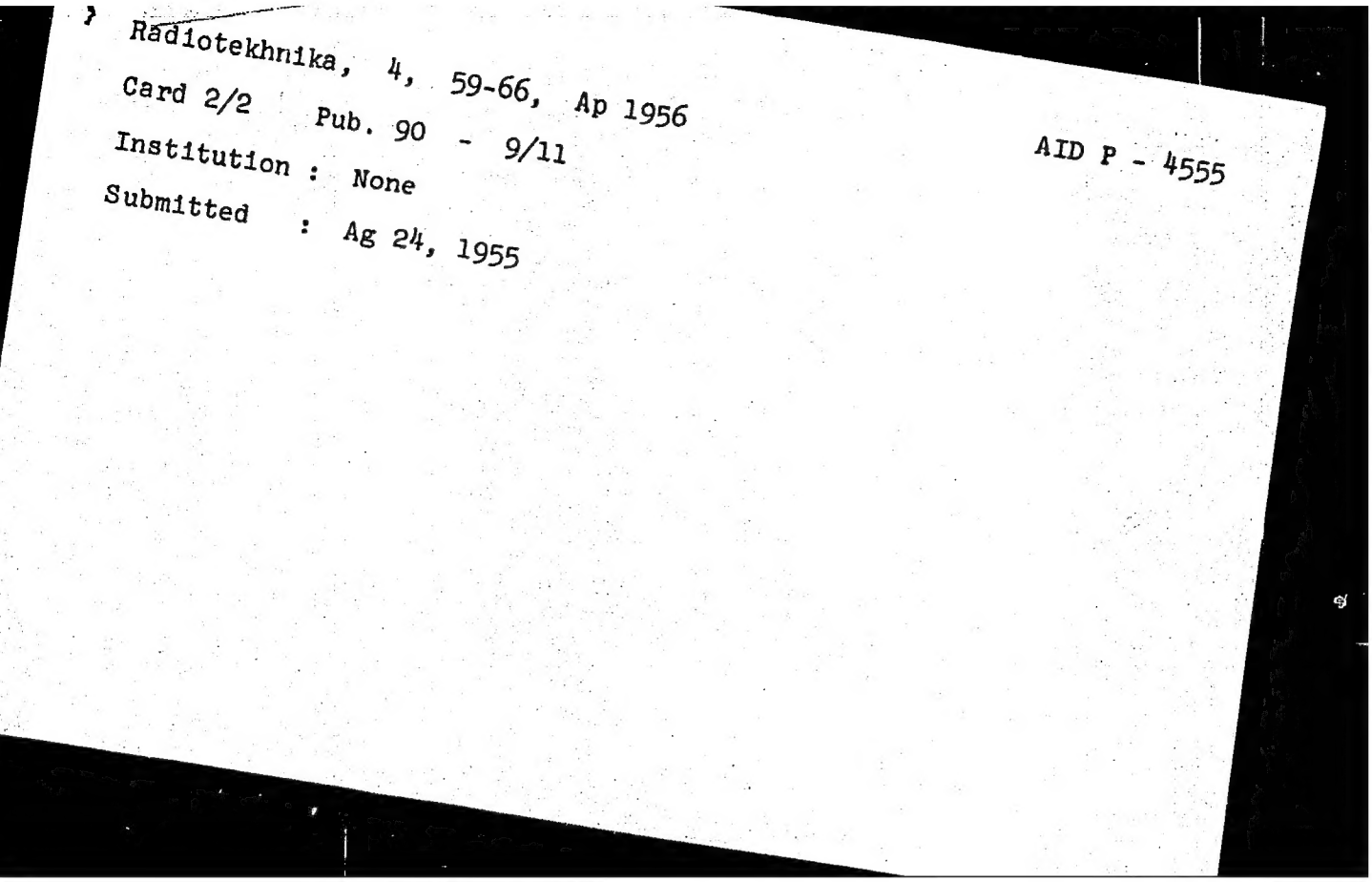
Card 1/2 Pub. 90 - 9/11

Authors : Velikin, Ya. I., Z. Ya. Gelmont, and E. V. Zelyakh

Title : Piezoelectric filter of low frequencies.

Periodical : Radiotekhnika, 4, 59-66, Ap 1956

Abstract : The article follows an earlier one by these authors (this journal, No. 3, 1955), "Piezoelectric filter of high frequencies". The authors present connection diagrams for a single and a double section piezoelectric filter of low frequencies, find their characteristics, and develop formulas for the calculation of their elements. Special attention is devoted to the calculation of resonant and antiresonant frequencies of such filters and of their operational attenuation. An experimental attenuation characteristic of a two-sectional filter is presented. Five diagrams, 2 Soviet references (1946, 1955).



Radiotekhnika, 4, 59-66, Ap 1956

Card 2/2 Pub. 90 - 9/11 AID P - 4555

Institution : None

Submitted : Ag 24, 1955

ZELYAKH, E. V.

Class $21a^{4}$, 22_{02}, No. 102860. Ya. I. Velikin, Z. Ya. Gel'mont and E. V. Zelyakh. Electric Band-Elimination Filter.

To reduce distortion of the transmitted signal it is suggested that extension arms, having characteristic resistances approximately equal to the nominal resistance of the filters, be connected at the input and output of series-connected filters of low and high frequencies formed by the elimination filter.

To widen the range of filter-element values by way of utilizing LF and HF filters with dissimilar nominal resistances, it is suggested that extensions be used with the same characteristic resistances at parallel connection and at the filters of low and high frequencies, approximately equal to the nominal resistance of the corresponding filter.

Authors' Certificates, Elektrosvyaz' No. 9, 1956.

ZELYAKH, E. V.

Class $21a^{4}$, 22_{02}, No. 102983. Ya. I. Velikin and E. V. Zelyakh. Electric Band-Elimination Filter.

In the electric band-elimination filter, consisting of induction coils connected in series and piezoelectric resonators in parallel, it is suggested to widen the elimination band by using piezoelectric resonators of different filter sections with the same resonance frequencies, so that the elimination band of the individual resonators can be combined into a single broader elimination band for the entire filter.

Authors' Certificates, Elektrosvyaz' No. 9, 1956.